

UNDERSTANDING CENTERS OF GRAVITY AND CRITICAL VULNERABILITIES

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Part 1: What Clausewitz (Really) Meant by Center of Gravity

Ambiguity, artificial restrictions and contradictions regarding centers of gravity still exist, despite recent progress.

In the past few years the Joint Community has come a long way regarding concepts and definitions of centers of gravity (CGs) and critical vulnerabilities (CVs). Centers of Gravity are now clearly equated to strength, and critical vulnerabilities equated to weakness. It is acknowledged that *multiple* CGs may exist at a given level of war; that they may change from phase to phase within a campaign; and that they can change unexpectedly when an enemy shifts “the weight of its attack, thus uncovering or relying on a previously unforeseen center of gravity.”¹

Nevertheless, ambiguity, artificial restrictions and contradictions still abound. For example, Joint Forces Staff College (JFSC) Pub 1 contains the following sentences back-to-back: “Centers of gravity are the characteristics, capabilities, or locations from which a military force derives its freedom of action, physical strength, or will to fight. At the strategic level, centers of gravity might include a military force, an alliance, a set of critical capabilities or functions, or national strategy itself.”² First, according to the Joint definition a military force cannot be a center of gravity, yet it is included in a series of potential examples. Secondly, the Joint definition compels one to choose a characteristic, capability **OR** a location from which ..., whereas in many real world scenarios these three requirements often must exist simultaneously in mutual dependency. A force defending a given location would often invariably be ineffective without also possessing essential characteristics and capabilities. Thus when ‘location’ wins the label of CG the other two terms/requirements appear to be taken for granted, i.e., mere givens. Thirdly, phrases such as “the foundation of capability,” “the hub of all power and movement,” and “dominant characteristics” are ambiguous enough. Worse, they are invariably supported/illustrated with an expansive laundry list of examples to include an alliance,

the community of interest, public opinion (an imprecise term by itself), and even “national strategy itself.”³ Marine Corps Doctrinal Publication 1 *Warfighting* (MCDP 1) contains one of the best (or worst) examples of the scatterization of the concept or term of center of gravity to mean any feature of friendly or enemy strength that strikes a commander and/or his staff as being preeminently central in a given situation.⁴

Words and phrases such as “critical,” “the key,” “the crux,” and “everything hinges upon,” by themselves are not accurate indicators of centers of gravity.

The commander pounds the table with his fist and exclaims, “The port! The port! The port! We can’t do a damn thing without it! It is the key to our entire campaign (or strategy). It is our center of gravity. Everything hinges upon it. We must first secure it, and then expand its capacity to process 100,000 widgets a day.” How many times have you heard or read something like this? True enough, our port conforms nicely to the phrases ‘foundation of capability’ and ‘the hub of all power and movement’ *a la* JFSC Pub 1; and it certainly is a ‘critical factor’ which the commander cannot do without *a la* MCDP *Warfighting*. However, a perverted thought process is at play in our port example, and many cases similar to it, whereby commanders and their staffs designate a key logistical or C2 element or suchlike as a center of gravity. That process is driven by a rationale or train of thought in which concurrent and contrasting images of dependence, vulnerability and strength associated with a single preeminently critical factor (‘that everything else hinges upon’) blend together – resulting in said factor being designated as ‘the’ or ‘a’ center of gravity. Yet, our port will not kill a single enemy soldier, or strike heavy (or effective) blows against enemy forces, or offer any resistance to enemy schemes of maneuver. Nor will it seize a single square inch of key enemy terrain, or wreck physical destruction upon the enemy’s military and civil infrastructure. It will *support* all of those activities, but it will not *do* any of them. Therefore, our port is not a true Clausewitzian center of gravity. It is instead a critically important requirement necessary to support the real center (or centers) of gravity that will engage the enemy’s physical means to resist and destroy his will to fight.

Clausewitz’s discussion of centers of gravity in Book Six of *On War* is clear and straightforward.

The 1987 Schneider-Izzo essay in *Parameters* on “Clausewitz’s Elusive Center of Gravity” still stands as a solid review of what Clausewitz meant by physical centers of gravity in Book **Six** of *On War*.⁵ Having established in Book One “the physical nature of war as a **collision between armed forces**,” in Book Six Clausewitz discusses the use of “physical force to throw an opponent”. In Chapter 27, “Clausewitz develops a **relationship between these dynamic forces in collision** and their locus of action in space, the theater of operations.”⁶ In large countries with large theaters of operations, a “division of forces ... becomes inevitable, and with it several theaters of operation. ... For this reason, the blow from which the broadest and most favorable repercussions can be expected will be aimed **against that area** where the **greatest concentration** of enemy troops can be found; ... A center of gravity is **always found** where the mass is

concentrated most densely. It presents the most effective target for a blow; furthermore, the heaviest blow is that struck by the center of gravity.”⁷ “A major battle in a theater of operations is a collision between two centers of gravity;...”⁸ “Of significance” is that Clausewitz “clearly distinguishes between what he views as the center of gravity – i.e. the army itself – and those things which FM 100-5 erroneously cites as being examples of centers of gravity. Thus, for instance, he notes that the attacker’s lines of communication, rather than themselves constituting a center of gravity, are merely a means through which commanders ‘aim at an immediate decision, a confrontation of the two centers of gravity.’”⁹ We agree with Schneider and Izzo that Clausewitz’s discussion of physical centers of gravity in Book **Six** (in *any* of the translations of *On War* that will be discussed later in this article) is very clear.

Schneider and Izzo add that the Germans adopted the concept of the center of gravity, which they called *schwerpunkt*,¹⁰ “as a useful operational design tool because of its close association with the principle of concentration of mass or force. In the German language, ‘concentration of mass’ is translated as *schwerpunktbildung*.” The success of Nazi-Germany’s lightning campaigns during the early years of World War II “depended largely upon the rapid shifting and deployment of concentrations of armored forces. These armored forces, thus concentrated, constituted in the German view the *schwerpunkt* or center of gravity of the operation.”¹¹ Schneider and Izzo conclude their essay with a discussion of the German understanding of opposing centers of gravity (opposing *schwerpunkten*) during the battle for France in 1940.¹² In October and November 1939 the Germans changed their attack plan by shifting their center of gravity – seven panzer and three motorized infantry divisions (backed up by thirty-five regular infantry divisions) – south to the Ardennes region. What made this (Manstein) revision “decisive was that the Allied center of gravity, located with the mass of forces to the north, was about to pivot around Sedan eastward into Belgium.” German seizure of Sedan would place the newly constituted German center of gravity “on the flank and rear of the Allied center of gravity.... The further west the Germans could penetrate, the more critical” the effect “would become. The *speed* of this movement would ensure the paralysis of Allied command and control.”¹³

This same concept is also seen in Hitler’s Directive No. 21, dated 18 December 1940, for Operation BARBAROSSA, the invasion of Russia in 1941: “In the operations area divided by the Pripet Marshes into a southern and a northern half the **center of gravity** is to be formed north of this area. Here two Army Groups are to be envisaged. The more southerly of these two [northern] Army Groups ... has the task of bursting forward with particularly strong Panzer and motorized formations from the area around and north of Warsaw and of smashing the enemy forces in Belorussia.... The Army Group deployed south of the Pripet Marshes must form **its center of gravity** in the Lublin area in the general direction of Kiev, in order to advance rapidly with strong panzer forces into the deep flank and rear of the Russian forces and to roll it up along the Dnieper.”¹⁴ Both the France 1940 example and Hitler’s directive for BARBAROSSA illustrate and support the Clausewitzian concept of physical centers of gravity at the operational level of war, and that a center of gravity of a particular force (within the

context of the total force) is where its main power is located or situated (i.e., the center or seat of its power).

Unfortunately, the common understanding of Clausewitz’s discussion of centers of gravity in Book Eight has been the cause for considerable confusion.

In Book Eight, “War Plans,” Clausewitz applies the term center of gravity to the broader realm of national and coalition (or grand) strategy, as opposed to the operational and tactical levels of war. At the strategic level of war, the army, according to Clausewitz, may be just one among several non-physical, or less physical, centers of gravity: “In countries subject to domestic strife, the center of gravity is generally the capital. In small countries that rely on large ones, it is usually the army of their protector. Among alliances, it lies in the community of interest, and in popular uprisings it is the personalities of the leaders and public opinion.”¹⁵ (We will return to this list later under ‘Moral’ Centers of Gravity.) Chapter Four of Book Eight also contains perhaps the most frequently quoted passage from *On War* regarding centers of gravity: “[O]ne must keep the dominant characteristics of both belligerents in mind. Out of these characteristics a certain center of gravity develops the hub of all power and movement, on which everything depends. That is the point against which all our energies should be directed.”¹⁶

In 1987 Schneider and Izzo understandably concluded: “Here [in Book Eight] we encounter the root of much of the confusion surrounding the center of gravity. Throughout the discussion of the concept in Book Six, it is clear that Clausewitz is referring to the opposing armies as constituting the centers of gravity.” But in Book Eight, “the physical aspect of the concept becomes much less precise... Now at the level of war plans, or what is classically called grand strategy, he simply carries the analogy too far.”¹⁷ This was an understandable conclusion.

Understanding *On War*: context and alternative translations.

However, having expressed our understanding, even sympathy, for the logical reaction of Schneider and Izzo, we now ask the question: Did Clausewitz (simply) ‘go too far’ in Book Eight, or has he (not so simply) been misunderstood? Our answer is that for the most part he has been misunderstood – and for two main reasons. The first reason is that the Howard-Paret translation/edition of *On War*, the source used almost universally in the English-speaking world, may inadvertently have confused some aspects of what Clausewitz actually said. The second reason is that some interpretations of the Clausewitzian concept of center of gravity have simply been taken out of context. Notwithstanding possible mistranslations, the Howard-Paret version is still sufficiently clear and consistent – *provided* that the collective separate passages on centers of gravity are understood and interpreted in their original contexts: the contexts of the paragraph, page and chapter at hand; and the context of relevant parallel passages in other parts of the book.

Let's take the second reason first.

What Clausewitz really meant in Book Eight: (1) a closer look at context in the Howard-Paret edition.

Even in the Howard-Paret edition of *On War*, Book Eight still lends substantial support for the army, or its main components, functioning as physical centers of gravity at the *strategic* level of war. For example: “For Alexander, Gustavus Adolphus, Charles XII, and Frederick the Great, the center of gravity was their army. If the army [their armies] had been destroyed, they would all have gone down in history as failures.”¹⁸

Secondly, commonly overlooked or ignored is the very large paragraph in *On War* that precedes the “dominant characteristics” and “hub of all power and movement” passages quoted earlier. In that paragraph Clausewitz explains that,

If Paris had been taken in 1792 the war against the Revolution would almost certainly for the time being have been brought to an end. There was no need even for the French armies to have been defeated first, **for they were not in those days particularly powerful**. In 1814, on the other hand, even the capture of Paris would not have ended matters if Bonaparte had still had a sizeable **army** behind him. But as in fact his **army** had been largely eliminated, the capture of Paris settled everything in 1814 and again in 1815. Again, if in 1812 Bonaparte had managed, before or after taking Moscow, to smash the Russian **army**, 120,000 strong, on the Kaluga road, just as he smashed the Austrians in 1805 and the Prussians the following year, the fact that he held the capital would probably have meant that he could make peace in spite of the enormous area still unoccupied. In 1805 Austerlitz was decisive. The possession of Vienna and two-thirds of the Austrian territory had **not** sufficed to bring about a peace. On the other hand, after Austerlitz the fact that Hungary was still intact did nothing to prevent peace being made. The final blow required was to defeat the Russian **army**; the Czar had no other near at hand and this victory would certainly have led to peace. Had the Russian **army** been with the Austrians on the Danube in 1805 and shared in their defeat [referring to Ulm], it would **hardly have been necessary to take Vienna**; peace could have been imposed at Linz. **Equally, a country's total occupation may not be enough**. Prussia in 1807 is a case in point. When the blow against the Russian ally [i.e. **army**] in the uncertain victory of Eylau was not sufficiently decisive, the decisive victory of Friedland [against the Russian **army**] had to be gained in order to achieve what Austerlitz had accomplished the year before.”¹⁹

Thirdly, the phrase “hub of all power and movement” must be understood in light of the broader context of Clausewitz's remarks in Chapter 27 of Book Six. The following sentences come right after the “A center of gravity is always found where the mass is concentrated most densely,” etc., sentence: “The fighting forces of each belligerent – whether a single state or an alliance of states – have a certain unity and therefore some cohesion. **Where there is cohesion, the analogy of the center of gravity can be applied**. Thus these forces will possess certain centers of gravity, which, **by their movement and**

direction, govern the rest; and those centers of gravity will be found wherever the forces are most concentrated.”²⁰ Here the phrase “hub of all power and movement” refers unequivocally to the main bodies of the opposing army forces. Note that “their” refers to ‘centers of gravity’ (i.e. the movement and direction of centers of gravity). This point is reinforced by a supporting passage half way down the same page: “It is therefore a major act of strategic judgment to distinguish these centers of gravity in the enemy’s forces [i.e. ‘concentrations’ within their total force] and to identify their spheres of effectiveness [and influence]. One will constantly be called upon to estimate the effect that an advance or a retreat by part of the forces on either side will have upon the rest.”²¹

Fourthly, even the “dominant characteristics” sentence has all too often been cited and employed devoid of its *On War* context. The very next sentence in the Howard-Paret version reads: “Out of these [dominant] characteristics a certain center of gravity develops, the hub of all power and movement...” Note the words “Out of” and “develops”; the sentence does **not** read ‘**One of these characteristics will emerge** as a center of gravity’. Moreover, at the end of Chapter 27 in Book Six, Clausewitz elaborates on one such characteristic – cohesion:

“There is a decided difference between the cohesion of a *single* army, led into battle under the personal command of a *single* general, and that of an *allied force* extending over 250 or 500 miles, or even operating against different fronts. In the one, cohesion is at its strongest and unity [another characteristic] at its closest. In the other, unity is remote, frequently found only in mutual political interests [another characteristic], and even then rather precarious and imperfect; cohesion between the parts will usually be very loose, and often completely fictitious.”²²

In this context, the three variable characteristics (cohesion, unity and political interests) themselves are clearly not viewed as candidates for centers of gravity. They are instead factors that will determine which of the armies or components thereof, on each side, will function as ‘the’ or ‘a’ center of gravity. Moreover, Clausewitz described these factors in stark negative terms – unity of effort is remote because of precarious and imperfect coalition political interests causing weak or fictitious cohesion (i.e. typical coalition dynamics). So much so, that he, like Napoleon, concluded that more often than not they would be weaknesses akin to our modern-day concept of critical vulnerabilities, and not robust centers of gravity.

Fifthly, at the end of Chapter 27, Book Six, Clausewitz explained *in his own words* his intentions for Book Eight: “The last book [Eight] will describe how this idea of a center of gravity **in the enemy’s force** operates throughout the plan of war.”²³ Note: not ‘contributing’ to the strength of the enemy’s force, or not ‘associated indirectly’ with the enemy’s force; but the main concentrations of mass, main bodies, **in** the enemy’s (total/combined) force.

The point of the above discussion is that *even* in the Howard-Paret version, the ‘hub’ in the phrase “hub of all power and movement” can be interpreted in proper context as meaning virtually the center of a force’s power or mass; and not as some secondary

element or characteristic from which that power emanates, or around which that power revolves. Moreover, this interpretation is about to be more powerfully reinforced as we now shift to our first reason why Clausewitz's concept of center of gravity has been commonly misunderstood.

What Clausewitz really meant in Book Eight: (2) alternative translations of *On War*, both older and newer than the Howard-Paret edition.

So far we've used the description of a center of gravity as "the hub of all power and movement" a number of times in this article. Actually, these words belong to Michael Howard and Peter Paret, not Clausewitz. He said something rather different in the original German: "*ein Zentrum der Kraft und Bewegung*" which translates literally as "a center of power and movement." A small difference, certainly, but a significant one. The analogy of a center of gravity as a hub of a wheel was Howard's and Paret's, not Clausewitz's. And where did the idea of *all* power and movement come from? Certainly not from (the original) Clausewitz.

The point here is that our current definition of center of gravity is shaped by the words used by Howard and Paret, which has led us to consider it as something rather different from that originally conceived by Clausewitz. And although we would never argue that we must stick dogmatically to a 180-year-old definition, the original conception was *much* simpler than that applied by many of our headquarters today. And if analyzed correctly, more useful, too.

So let's have another look at the U.S. and NATO definition:

"those characteristics, capabilities, or localities from which a nation, an alliance, a military force or other grouping derives its freedom of action, physical strength or will to fight."²⁴

The nouns used to describe a center of gravity in this definition are interesting: "characteristic, capability, or locality". If we look at historical cases, at what we all just *know* are centers of gravity, we come up with examples like the Iraqi Republican Guard; von Kleist's Panzer Group in May 1940; Robert E. Lee's Army of Northern Virginia; and leaders like Saddam Hussein, Winston Churchill, Abraham Lincoln and Robert E. Lee himself. (See below for a discussion of 'Moral' Centers of Gravity.) It takes considerable imagination to think of any of these examples as "characteristics, capabilities, or localities." We certainly wouldn't use these nouns to describe the examples given. But centers of gravity they undoubtedly are.

This rather confusing definition encourages the current situation where it is rare when a group of people can readily or easily agree on a center of gravity. The definition is so open to interpretation that military analysts can view the same situation in a variety of different ways in the search for the center of gravity. **Many hours are thereby wasted in fruitless discussion and argument; hours that could be better spent on planning.** In some instances, the question of center of gravity is so difficult that it is put

to one side while the plan is developed – and only then defined, once the overall scheme of the battle has been developed in isolation from complicating theoretical concepts.

It's all supposed to be so much simpler than this. There is no doubt that Clausewitz meant a center of gravity to be the main strength of the enemy. When creating the analogy with the center of gravity in mechanics, he described it (as translated by Howard and Paret) thus:

“A center of gravity is always found where the mass is concentrated most densely. It presents the most effective target for a blow; furthermore, the heaviest blow is struck by the center of gravity.”²⁵

But an alternative translation by Colonel J. J. Graham, originally published in 1874, describes it slightly differently:

“As a centre of gravity is always situated where the greatest mass of matter is collected, and as a shock against the centre of gravity of a body always produces the greatest effect, and further, as the most effective blow is struck with the centre of gravity of the power used, so it is also in War.”²⁶

This may be more obtuse than in the Howard-Paret edition of 1976. But it is also more literal, and conveys a slightly different impression. Note that Clausewitz was talking about the center of gravity having an *effect* on the opponent, and the blow it strikes is the most effective – not necessarily the heaviest. But there's no doubt in this passage he's talking about something *physical*, something that strikes blows. No idea here of alliance cohesion, or lines of communication, or seaports.

According to Colonel Timothy Curran, USA, who was researching and reflecting on Clausewitz and centers of gravity at the U.S. Army War College, “the [original] German is more definite” than either the Howard-Paret or Graham translations, “that a center of gravity is a center of strength.” “In reading *Vom Kriege*, Curran found fifty-one occurrences of *Schwerpunkt* (center of gravity), all of which supported this interpretation.²⁷ Furthermore, eight times “Clausewitz *specifically* used *Macht* [power] in association with *Schwerpunkt*.” Whereas, Book Eight, Chapter 9, of Howard-Paret “leaves out *Macht* quite a bit, and so leaves the door open for misinterpretation.”²⁸

The adversarial element of the center-of-gravity concept.

So where, in our current official definition of center of gravity, did the idea of “characteristics” come from? We need to go back to a section quoted earlier, from the 1976 translation:

“one must keep the dominant characteristics of both belligerents in mind. Out of these characteristics a certain center of gravity develops...”²⁹

But if we go back to the original German, a rather different idea was being conveyed:

“Es kommt darauf an, die vorherrschenden Verhältnisse beider Staaten im Auge zu haben. Aus ihnen wird sich ein gewisser Schwerpunkt ... bilden ...”³⁰

Which Colonel Graham translated as:

“that the great point is to keep the overruling relations of both parties in view. Out of them a center of gravity ... will form itself...”

This version includes an essential ingredient that is missing from the Howard-Paret translation: that what is important is the *adversarial* nature of centers of gravity. Clausewitz described the center of gravity emerging from the “overruling relations (*Verhältnisse*) of both parties,” i.e., a center of gravity is relevant *only in relation* to an opponent. It is not a concept that exists on its own. In the American Civil War, the Army of Northern Virginia was a center of gravity not because its soldiers were particularly good-looking, but because of the threat it posed to Washington DC and its ability to block the Union Army of the Potomac’s march on Richmond, the Confederate capital. In 1940 von Kleist’s panzer divisions had the capability to overwhelm the French defenders on the Meuse and encircle the Allied armies in Belgium.

In 1991 the Iraqi Republican Guard was a center of gravity because of what it could potentially do to VII Corps, not just because it was well trained with capable armor. In 2003 the Republican Guard was once again continually mentioned as an Iraqi center of gravity in relation to a possible Iraqi plan to draw Coalition ground forces into Baghdad, where they would suffer another “Stalingrad”. (*If this was the Iraqi plan, it was preempted by Coalition air and ground forces which took full advantage of the Guard’s many critical vulnerabilities – a term discussed in Part 2 of this article – to virtually destroy it south of the city.*) In retrospect, the fedayeen turned out to be the more worrisome threat, at least for a short while, because of its ability to maintain Saddam’s grip on numerous cities in Shiite southern Iraq, from which they could threaten the Coalition’s 200-mile-long supply lines running back to Kuwait. Yet the Kurdish peshmerga, we suspect, would have relished fighting the fedayeen on their terms: to the Kurds it was the Republican Guard with their superior firepower, mobility, and protection that was a much more potent center of gravity. This is a graphic example of how centers of gravity are formed *out of* the relationships between the two adversaries. The Iraqi operational center of gravity may have been the Republican Guard against the Kurds; but was likely to have been the irregular and asymmetric forces of the fedayeen against the Coalition, against which the Republican Guard could not survive in open or fixed positions *south* of Baghdad. (We will never know how effective a center of gravity the Guard might have been, had it been deployed into Baghdad in a timely manner before it was destroyed outside the city.)

Clausewitz maintained that when opponents decide to engage in a contest of physical and moral strength, at that moment, and until the contest is over, centers of gravity become and remain “active agents”.³¹ Physical centers of gravity function as active agents that endeavor to destroy the enemy’s capability and will to resist, and (as will be

discussed below) moral centers of gravity function as active agents that influence or control physical centers of gravity.

The above passage on ‘active agents’ notwithstanding, the adversarial element to the concept of center of gravity is largely missing from the 1976 Howard-Paret version of *On War*. Instead we have introduced the idea of “dominant characteristics.” This is where we believe the noun in the NATO definition comes from – a misreading, or a mistranslation, of the original concept. It implies that a center of gravity can exist in its own right, and is some function of the “nation, alliance, military force or other grouping” taken in isolation. Intuitively we know this to be wrong. Nothing in war is important except in the context of the conflict – how it impinges on the balance between combatants. And the use of the word “characteristic” in English permits consideration of virtually anything you care to think of as a potential center of gravity: logistics, a road network, cohesion, or a radar system. This is the cause of confusion for our current planners. Today’s official definition of center of gravity is certainly a long way from a strength that strikes “the most effective blow”, although many of the examples quoted in doctrine are precisely those Clausewitz would recognize, contrary to the formal definition.

Moral Centers of Gravity.

In Book One of *On War*, Clausewitz lent strong support to Napoleon’s popular maximum that in war, ‘The moral is to the physical as three is to one.’ “[T]he moral elements are the most important in war. They constitute the spirit that permeates war as a whole, and at an early stage they establish a close affinity with the will that moves and leads the whole mass of force.... History provides the strongest proof of the importance of moral factors and their often incredible effect.”³² In Chapter Four, Book Eight, Clausewitz mentions a few specific moral centers of gravity: “In countries subject to domestic strife, the center of gravity is generally the capital. ... Among alliances, it lies in the community of interest, and in popular uprisings it is the personalities of the leaders and public opinion.”³³

But does he mean “... the center of gravity is generally the capital” or what is in the capital? Half way down the same page Clausewitz concluded that capturing the capital would be “important for the defeat of the enemy” “if it [the capital] is not only the center of administration but also that of social, professional, and political activity.”³⁴ Who is doing the administration, and conducting the social, professional and political activities? Moreover, Graham’s translation reads, “this centre generally lies in the capital.”³⁵ ‘Lies in’ is quite different than ‘is...the’. Is it really ‘the community of interest’? Both the Graham and Howard-Paret versions read “lies” in the community of interest. Yet, who determines what that interest is and/or continues to be over the duration of a conflict? Regarding popular uprisings, Graham’s translation reads that the center of gravity lies “in the person of the chief leader, and in public opinion.”³⁶ The person himself, or his personality? Finally, what about public opinion? Who forms it? And what if public opinion is weak or luke warm? That is, what if the will of the people is only luke warm or weak? Is public opinion then still a center of gravity? A strong-willed population or

people is a source of moral strength. Conversely a weak-willed people is invariably a critical vulnerability. What do you think Clausewitz would have said to that? (Remember that *On War* is an unfinished book.)

You can defeat an opponent's army, destroy his industry, and occupy his land. But, if the spirit of resistance still burns in the hearts of his people, you cannot claim to have won. You might be able to subjugate him to your will in the short term, but who can doubt that you are storing trouble for yourself in the long run? It is difficult to envisage, for example, the Israeli Defense Force achieving lasting peace in the Occupied Territories as long as the Palestinian people believe themselves to be wronged. Here we have a powerful example of a strong-willed people who lack all the trappings of conventional military power, but who will fight to the end for what they think to be right.

So, to achieve a long lasting settlement, a self-sustaining peace, you must undermine the enemy's strategic centers of gravity; and these invariably will include one or more moral centers of gravity. There must be clear linkage between the campaign objectives at the operational level, and undermining or defeating the moral center(s) of gravity (the enemy's **moral resistance**) at the strategic level. This will take more than just the military instrument to achieve – the total strategy should be much more embracing, using all the instruments of national power, with military action playing its part in the totality of the strategy. Military operations should not be a stand-alone item, otherwise it's unlikely that defeat of an enemy's operational center of gravity will lead to undermining the strategic moral center(s) of gravity.

The outcome of the 1991 Gulf War was a resounding military victory that achieved the Coalition's limited objective, the liberation of Kuwait, by defeating Iraq's operational center of gravity, the Republican Guard.³⁷ But Saddam Hussein, a strategic moral center of gravity, remained undefeated. In Operation Iraqi Freedom in 2003, Saddam was effectively neutralized early in the war, and the information operation undermined the will of the population (another potential strategic center of gravity) to fight on his behalf. Thus, the enemy's moral center(s) of gravity was neutralized simultaneously with defeating his operational centers of gravity: the Republican Guard and the Fedayeen. The Coalition was thus able to achieve its operational objectives: the seizure of Baghdad and the toppling of the regime. However, neutralizing a strategic center(s) of gravity is not the same as defeating it, necessary for the much wider strategic objective of achieving lasting peace. The evolving nature of the conflict in Iraq demonstrates that continuing effort is required to win over the will of the Iraqi people to support/accept Coalition strategic post-war objectives.

So how do we identify the moral center(s) of gravity? One thing is certain: the process begins and ends with **people** – only people can create and sustain moral resistance. These 'people' can be arranged into three general categories:

- **The leader** – a strong-willed individual who has the will to develop, execute and/or sustain a policy of opposition to a potential enemy, along with the ability to exert his will through his armed forces and/or people. Examples are Saddam

Hussein in 1990-91, Winston Churchill in 1940-41, or Premier Stalin and President Roosevelt throughout World War II.

- **The ruling elite** – a closed group within which the real power of the state or entity resides. This group might loosely be described as the “king makers,” who between them direct policy and wield control over the armed forces and/or people. Examples might be the Soviet Politburo in the 1970s, or the clerical elite in the 1979 Iranian Revolution.
- **A strong-willed population** – a large grouping of people who share a common belief set that sets them in opposition to another state or grouping, and hold this belief sufficiently strongly to engage in, and sustain, conflict with the adversary. Examples are both the Palestinians and Israelis in the Arab-Israeli conflict, and the American people in the aftermath of 7 December 1941.

Two central elements common to these moral centers of gravity are **the will to fight**, and **the ability to command the resources to fight**.

According to Clausewitz, “The first, the supreme, the most far-reaching act of judgment that the statesman and commander have to make is to establish ... the kind of war on which they are embarking; ... This is the first of all strategic questions and the most comprehensive.”³⁸ To do this successfully, they must first appraise as accurately as possible the moral and physical character of their opponent to include his moral and physical centers of gravity. There is no alternative; and there is no short cut or analytical model that can make up for an inaccurate assessment of the enemy when deciding on centers of gravity.

A course of action designed to defeat or undermine a single leader would be very different from one designed to undermine the will of an entire population. For example, in the 2001 Afghan conflict, planners might have looked at a number of possible moral centers of gravity for the Taliban: Mullah Omar; the ruling Taliban elite; or a large segment of the Pashtun population. The right choice depended on in-depth knowledge of the Taliban and the current situation in Afghanistan. The wrong choice would probably have resulted in a misdirected campaign, and likely failure.

Some useful questions to help fathom true *and false* moral centers of gravity are:

1. Is the strength of will of the population such that it doesn't matter who is the leader? If the population (or large proportion of it) feels so strongly about a policy that their leader(s) cannot thwart, deflect or dilute their will, then the population itself is a moral center of gravity.
2. Does the authority to appoint a new leader (or dismiss the old one) lie within a small elite, who could simply elect one among several of their own to become a new leader, pursuing largely similar policies? If so, the elite is a moral center of gravity.
- 3A. If the present leader died, would he likely be replaced by another leader with similar outlook and policy? If so, odds are that neither the current leader nor his likely successor are or will be moral centers of gravity.

- 3B. On the other hand, if the present leader were to die, is there a chance that his successor might effect a dramatic change for the worse (from the opponent's point of view) in the nature and effectiveness of the 'national' policy of resistance/opposition? If so, then said replacement leader should be viewed as a potential moral center of gravity.
- 3C. Despite answers for the above questions, is there reason to believe that the present leader somehow, someday, is making a decisive difference in the nature and effectiveness of the 'national' policy of resistance/opposition? And that the situation from the opponent's perspective would improve in his absence or death? If so, then the present leader, should be (also) viewed as a moral center of gravity.

Depending on the scenario, the number of moral centers of gravity could range from three to zero.

Without a correct assessment of moral centers of gravity, a given strategy is not likely to succeed. Therefore, one of the key functions of intelligence should be to address these questions and provide answers, or at the very least well-reasoned, and well-founded educated guesses.

Examples of Moral Centers of Gravity:

➤ **The US Civil War.** At the outbreak of the Civil War in 1861, it would have been hard to identify Abraham Lincoln as the single moral center of gravity for the North. He was untried and untested. If he had died in the early months of the War, he would have been replaced by Vice President Hannibal Hamlin who would likely have pursued a similar war policy. But there is no doubt that by 1863-64 he had become the driving force behind the Union. It was he who was the architect of final victory, and Ulysses S. Grant his chosen instrument.

So, for the North we can suggest that in the early stages of the War the moral center of gravity was probably the grandees of the Republican Party. But as the war progressed Lincoln grew in stature, and by the 1864 Presidential Election Abraham Lincoln had certainly become the moral strategic center of gravity for the North.

In the Confederacy, if Jefferson Davis had died at anytime during the War, it's likely he would have been replaced by another leader who would have pursued a similar policy of armed resistance to the Union. So Davis could not have been a moral center of gravity for the South. The real center of gravity lay between the land-owning aristocracy (the elite group who had the authority to select a new Confederate President) or the strong-willed population of the Southern States. Both options – the aristocracy and the population – are legitimate centers of gravity.

➤ **Germany in 1918.** In the second half of 1918 the German Army was comprehensively beaten in the field, at both the tactical and operational levels.

It was overwhelmed by a series of hammer-blow attacks by the British, French, and American Armies. There's little doubt that, if the Germans hadn't surrendered in November, the Allied armies would have driven deep into Germany early the following year.

So the German Army as a physical *operational* center of gravity was comprehensively beaten in battle. But it wasn't beaten psychologically. As it marched back into Germany, following the surrender, commanding officers made their men change into fresh uniforms. They returned with colors flying and bands playing. They returned, in the people's eyes, an undefeated and unbroken Army.

The illusion that the Army was undefeated in the field gave rise to a myth of political betrayal back home. If the Army hadn't been beaten, then the politicians must have let them down – a wholly mistaken view that was quickly and generally accepted. When in a 1939 speech Adolf Hitler claimed “Britain and France did not defeat us on the battlefield in 1918. That was a great lie!”, he was believed by the majority of the population.

We see here the picture of a moral center of gravity that didn't believe that it was beaten. It took more than operational level victory to bring *lasting* peace to Europe. Defeating the operational center of gravity by itself was not enough – it must be clearly linked to the strategic center of gravity. If that link is broken then short term victory may be won, but not a lasting peace.

➡ **Germany in 1945.** In Germany throughout World War II Adolf Hitler remained the most powerful example of a leader as moral center of gravity at the strategic level. The Nazi Party and the German people can also be considered as lesser moral centers of gravity; but by 1939 the Nazi Party existed mostly to support the leader, and to provide the means of control over the population.

The war ended in 1945 in totally different circumstances from 1918. Hitler, the all-powerful moral center of gravity, was dead; the Nazi Party had lost its purpose. All tools of government were in Allied hands. The Army was obviously defeated, the German people subjugated to Allied will. All the sources of moral resistance in Germany had been overcome, and the way to a lasting peace in Europe had been created.

This is not to suggest that the only way to achieve a lasting peace is through total victory, leading to complete subjugation of an enemy. Instead the lesson is to be absolutely clear as to where the moral power of an enemy lies – his moral centers of gravity – and direct one's strategy wholeheartedly to undermine them. This is the real requirement for success at the strategic level.

In Conclusion.

All the examples previously discussed or mentioned are centers of gravity that Clausewitz would recognize. The military organizations – Iraqi Republican Guard *et al* – are *physical* centers of gravity. The leaders are moral centers of gravity, whose “effective blows” are measured in terms of the political or military leadership they wield over their armed forces and people, including their ability to control their forces and shape the will of their people to do their will.

Clausewitz’s writing is not easy to understand, in English or German. Howard and Paret have done an enormous service to military students and practitioners alike in making *On War* so accessible to the English-speaking world. But perhaps, in their search for easily understood Twentieth Century language and expression, they have subtly changed our understanding of some of what Clausewitz was trying to put across. The idea of the “center of gravity” is such an example, and it’s now time to re-think our definition and use of this concept.

If we were to use Clausewitz’s original conception as the basis for defining and identifying centers of gravity (and it’s not a bad place to start since he first coined the expression), then we would come up with something that would fit these criteria whether a center of gravity be moral or physical:

- **They’re dynamic, positive, active agents.**
(Think *people*, in formations and groups, or as individuals.)
- **They’re obvious.**
(Physical CGs usually more so than moral CGs, depending on the richness of one’s intelligence.)
- **They’re powerful and strike effective, if not heavy, blows.**

Physical centers of gravity tend to be easy to visualize – armies or units, things that resist an opponent. Moral centers of gravity are intangible, and therefore less easy to grasp. Yet it is essential to understand moral centers of gravity: for these are likely to be the most important ones at the strategic level.

Our intent in Part I of this article was to clarify what Clausewitzian centers of gravity are and what they are not. They are **not** characteristics, capabilities or locations ... **They are dynamic and powerful physical or moral agents of action or influence that possess certain characteristics and capabilities, and benefit from a given location or terrain.**³⁹

In Part II we will develop and illustrate a logical process – and a construct – that more clearly defines the relationship between centers of gravity (CG) and critical vulnerabilities (CV), and that will enable planners to better focus friendly sources of power in the development of successful strategies and campaigns. This process and construct will show where “characteristics, capabilities and locations” properly belong in the scheme of things.



End Notes

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- ¹ JFSC Pub 1, *The Joint Staff Officer's Guide 2000*, p 3-8.
- ² JFSC Pub 1, ... 2000, p 3-8.
- ³ JFSC Pub 1, ... 2000, p 3-8.
- ⁴ "Depending on the situation, centers of gravity may be intangible characteristics such as resolve or morale. They may be capabilities such as armored forces or aviation strength. They may be localities such as a critical piece of terrain that anchors an entire defensive system. They may be the relationship between two or more components of the system such as the co-operation between two arms, the relations in an alliance, or the junction of two forces. In short, centers of gravity are any important sources of strength." MCDP 1, *Warfighting*, 20 June 1997, p 46.
- ⁵ James J. Schneider and Lawrence L. Izzo, "Clausewitz's Elusive Center of Gravity," *Parameters*, September 1987, pp 46-57.
- ⁶ Schneider and Izzo, pp 46-47. Emphasis added.
- ⁷ Schneider and Izzo, p 48 (citing the 1984 edition of the popular 1976 Howard-Paret edition of *On War*, pp 485-486). Emphasis added.
- ⁸ Schneider and Izzo, p 48 (citing Howard-Paret pp 488-489).
- ⁹ Schneider and Izzo, pp 48-49 (citing Howard-Paret p 491).
- ¹⁰ Schneider and Izzo, p 46.
- ¹¹ Schneider and Izzo, p 50.
- ¹² Schneider and Izzo, pp 52-55.
- ¹³ Schneider and Izzo, pp 54-55. Emphasis in the original.
- ¹⁴ Paul Carell, *Hitler Moves East 1941-1943*, Boston: Little, Brown and Company, 1964, p 20. Emphasis added.
- ¹⁵ Howard-Paret, *On War*, p 596.
- ¹⁶ Howard-Paret, *On War*, pp 595-596.
- ¹⁷ Schneider and Izzo, p 49.
- ¹⁸ Howard-Paret, *On War*, p 596.
- ¹⁹ Howard-Paret, *On War*, p 595. Emphasis added.
- ²⁰ Howard-Paret, *On War*, pp 485-486. Emphasis added.
- ²¹ Howard-Paret, *On War*, p 486.
- ²² Howard-Paret, *On War*, p 486. Emphasis in the original.
- ²³ Howard-Paret, *On War*, p 486. Emphasis added.
- ²⁴ AAP-6, *NATO Glossary of Terms and Definitions*, Edition "V" Version 2.
- ²⁵ Howard-Paret, *On War*, p 485.
- ²⁶ Clausewitz, *On War*, Book VIII, Chap 4, p 106, translated by Colonel J J Graham, 2nd edition, Kegan Paul, Trench, Trübner & Co, 1911.
- ²⁷ He further said that "not one occurrence" went against the interpretation of centers of gravity and critical vulnerabilities explained in *Centers of Gravity and Critical Vulnerabilities: Building on the Clausewitzian Foundation So That We Can All Speak the Same Language*, Dr. Joe Strange, Marine Corps University *Perspectives on Warfighting* Series, Number 4, Second Edition, 1996.
- ²⁸ Curran to Dr. Strange, e-mail 23 January 2002.
- ²⁹ Howard-Paret, *On War*, p 595.
- ³⁰ Clausewitz here uses "*Schwerpunkt*" in its civilian dictionary-defined term as a "center of gravity". Its military use as a point of main effort was also in contemporary use in the Prussian Army. Clausewitz used both meanings in *On War*, and accurate translation depends on an understanding of the context.
- ³¹ Howard-Paret, *On War*, p 488.
- ³² Howard-Paret, *On War*, pp 184-185.
- ³³ Howard-Paret, *On War*, p 596.
- ³⁴ Howard-Paret, *On War*, p 596.
- ³⁵ Graham, Vol III, p 107 (1908 edition).
- ³⁶ Graham, Vol III, p 107 (1908 edition).
- ³⁷ Norman Schwartzkopf, *It Doesn't Take a Hero*, Bantam Press, 1992, pp 396-397.

³⁸ Howard-Paret, *On War*, pp 88-89.

³⁹ Modified just slightly from language used recently in a Land Information Warfare Activity (LIWA) Training Education & Readiness training program. Unclassified TPs in possession of Dr. Strange. The actual wording is: “‘Centers of Gravity’ (CG) ARE dynamic agents of action or influence that possess certain characteristics & capabilities and benefit from a given location or terrain.”